

the LF electrode. The Examiner alleges that "Patrick et al. provide impedance measures between two electrodes" (Interview Summary mailed August 9, 2000).

Patrick et al., however, merely discloses a power sensor (202) for measuring the RF power delivered to the plasma chamber (104) (col. 7, lines 14-15). Patrick et al. states that the voltage, current, phase, and impedance of the plasma chamber may be measured, but fails to teach or suggest an impedance monitor comprising a first impedance probe electrically coupled to the HF electrode to measure the impedance at the HF electrode and a second impedance probe electrically coupled to the LF electrode to measure the impedance at the LF electrode. Using the sensor (202) as disclosed in Patrick et al. in a dual frequency system does not provide measurement of the impedance at the HF electrode and the impedance at the LF electrode.

→ Solution ok.

In the Interview Summary mailed August 9, 2000, the Examiner alleges that the recitation of a second impedance monitor would be considered obvious under *In re Harza*, 124 U.S.P.Q. 378 (C.C.P.A. 1960). Applicants note that *Harza* does not support the Examiner's conclusion.

First, Patrick et al. fails to disclose even one, much less two, impedance probes for measuring the impedance at an electrode as claimed. *Harza* stands for the proposition that mere duplication of parts has no patentable significance, provided that the prior art discloses the part. In *Harza* the part is a rib on a web of a water stop. In the present case, the part is an impedance probe that measures the impedance at an electrode. Claim 11 recites a first impedance probe to measure the impedance at the HF electrode and a second impedance probe to measure the impedance at the LF electrode. Patrick et al. discloses a power sensor (202) for measuring the RF power delivered to the plasma chamber (104) (col. 7, lines 14-15). Patrick et al. states that the "sensor may also measure the voltage, current and phase angle at the chamber electrode, and measure the chamber impedance as desired" (col. 4, lines 26-28). The power sensor in Patrick et al., however, does not measure the impedance at the LF electrode or at the HF electrode. Patrick et al. does not disclose the impedance probe as recited in claim 11. Therefore, the recitation of first and second impedance probes in claim 11 does not constitute mere duplication of a part disclosed in the prior art.

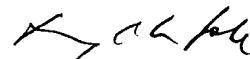
Furthermore, the two impedance probes as recited in claim 11 are novel and produce new and unobvious results. *Harza* states that "mere duplication of parts has no patentable significance unless a new and unexpected result is produced." *Id.* at 380. The court in *Harza* found claims 7 and 10 patentable for reciting "the combination of a plurality of ribs in the offset position." *Id.* at 381. The court reasoned that "the offsetting in combination with the claimed dimensional relationship of the ribs produces new and unobvious results which are not suggested by any combination of the references." *Id.* Similarly, nothing in Patrick et al. or the other cited references suggests measuring the impedance at the HF electrode with one impedance probe and measuring the impedance at the LF electrode with another impedance probe.

Measuring the impedance separately at the HF electrode and at the LF electrode can provide important information regarding the system and the process. For instance, the specification at page 25, line 25 to page 27, line 14 (Figs. 8-10) describes the use of independent impedance measurements at the HF and LF electrodes in conjunction with other measurements such as phase angle and current intensities to analyze the effects on ion bombardment, wet etch rate, and other film properties. Thus, the claimed system produces new and unobvious results.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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